March 4, 1848.

The MARQUIS OF NORTHAMPTON, President, in the Chair.

"On the Corrections necessary to be applied to Meteorological Observations made at particular periods, in order to deduce from them Monthly Means." By James Glaisher, Esq., of the Royal Observatory. Communicated by G. B. Airy, Esq., F.R.S., &c., Astronomer Royal.

The author, under whose immediate superintendence the whole of the magnetical and meteorological observations taken at the Royal Observatory at Greenwich have been conducted, by direction of the Astronomer-Royal, has communicated in the present paper various tabular results deduced from the meteorological observations, reserving for future notice those deduced from the magnetical series. His chief object has been to determine the corrections which are applicable to the results obtained by different observers at various times, so as to render them comparable with one another. The barometrical and thermometrical observations here recorded have been made at every hour of Gottingen mean solar time, during the whole of five years, namely, from the end of 1840 to that of 1845. The mean of each hour represents the results deduced from about 150 observations; those for each month represent about 1800 observations; and those for the year represent upwards of 21,000 observations of each element.

Tables are given representing the excess of the mean value of each element at every hour of observation, in every month, above the mean value for the month; and also the mean of the numbers so found, arranged for the different years, and likewise for the same hours in every month. The numbers were then laid down on paper, as ordinates to a curve of which the times were the abscissæ, and a curve passed through, or very near each point; and the ordinates at every Greenwich hour were measured from that curve, and their values given in a table. The accordance of the results thus obtained for the same hours in the same months of the different years is very close and satisfactory; and shows that observers may obtain very valuable approximate results, by taking a comparatively small number of observations in each day at hours by no means inconvenient in ordinary life, furnishing a close approximation to the mean and extreme values, as well as to the diurnal and annual variations of atmospherical phenomena.

March 9 and 16, 1848.

The MARQUIS OF NORTHAMPTON, President, in the Chair.

"Report of Experiments made on the Tides in the Irish Sea; on the similarity of the Tidal phenomena of the Irish and English Channels; and on the importance of extending the experiments round the